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SUBJECT: CHU AND LOCKE TALK CLEAN ENERGY WITH CHINA'S STATE GRID

REF: BEIJING 2044

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¶1. (SBU) SUMMARY. Secretary of Energy Steven Chu and Secretary of Commerce Gary Locke met with State Grid President Liu Zhenya on July 16 to discuss clean energy. State Grid is China's largest transmission and distribution company, serving nearly one billion people. The company has pioneered ultra-high voltage (UHV) transmission technologies, and has plans for a UHV AC/DC hybrid network nationwide. Such technology is essential to link China's remote energy resources with its consumption centers in eastern and central China. China has an aggressive plan to develop clean energy, which resulted in a doubling of wind generation capacity in 2008 alone. State Grid's three-stage plan to implement a robust, smart grid will help compensate for the variability of renewable generating sources. China's ambitious plans call for renewable energy to account for 35 percent of total generated power by 2020. Liu emphasized they need to work with the government to strengthen public understanding of climate change and build a base for burden sharing of the higher costs of wind and solar energy compared to fossil energies. Liu, Chu and Locke all expressed an interest to continue to share different approaches to clean energy. END SUMMARY

¶2. (SBU) Secretary of Energy Steven Chu and Secretary of Commerce Gary Locke met State Grid President Liu Zhenya on July 16 in Beijing. President Liu welcomed the two Secretaries to State Grid headquarters and thanked Secretary Chu for the warm welcome he had given him during Liu's recent trip to the U.S. in April of this year. In particular, he appreciated the Secretary's thoughts on clean energy and smart grid development. Liu then asked Ms. Cheng Mengrong, Deputy Director General of State Grid's International Cooperation Department, to provide an overview of the company and its efforts to create a "smart grid."

¶3. (SBU) Ms. Cheng explained that State Grid was China's largest electric power transmission and distribution company in China. They serve 26 of 31 provinces and over 1 billion people. With revenue of USD 164 billion, the company ranks number 15 in Fortune's Global 500 list, and is the world's largest utility company. In particular, the company has been a world leader in ultra-high voltage (UHV) transmission, with plans to implement a nationwide UHV AC/DC hybrid network power transmission system covering distances of up to 2,000 kilometers.

¶4. (SBU) Ms. Cheng explained that UHV transmission would be essential in meeting the anticipated doubling of power demand and

generating capacity by 2020. China's energy resources are concentrated in the north and northeast (coal), the northwest (wind and solar), and the southwest (hydro), yet two-thirds of demand is concentrated in east and central China. This is why China initially focused more on improving their power transmission than on the distribution systems. State Grid completed a UHV AC line in central China, which involved the company's own technology and standards, and it is constructing an 800kV UHV DC line from Sichuan to Shanghai. China's pioneering work includes test facilities that have broken the world record for UHV AC transmission.

15. (SBU) State Grid has also recognized on the need to improve on the transmission needs of renewable energy. China has been very active in developing wind generation in northeast and northwest China, doubling installed wind power capacity in 2008 alone to over 12,000 MW. But weak local grids and the variability of renewable power generation have made it difficult to transmit bulk power to consuming areas. Thus, China began research and implementation of a "Unified, Strong, Smart Grid," with a three-stage plan to implement a smart grid in the next ten years. By 2020, China's installed base of clean energy will reach 570 GW, accounting for 35 percent of total generation capacity. State Grid estimates this will save 470 million tons of coal consumption and 1.38 billion tons of CO2 emissions.

16. (SBU) Responding to a question from Secretary Chu, President Liu noted that China had a three-part strategy to balance the higher costs of clean energy with these objectives. First, China was pioneering long distance UHV transmission technologies in conjunction with the development of clean energy; second, they have redoubled efforts to reduce transmission and generation costs for clean energy; and third, they have good government support and have

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actively worked to raise the awareness of climate change affects to gain end-users willingness to burden share the increased costs of renewable energies. Liu continued, "Of course no one wants to pay more than they have to for energy, but if you explain the impacts of climate change and global warming, they can see how it will harm each family."

17. (SBU) Secretary Chu observed that with the variable nature of many renewable power sources, a smart grid must be able to switch vast amounts of power for "when the wind stops blowing." If clean energy comprises over 20 to 30 percent of the generating capacity, a provider will also need large-scale energy storage. Like China, many renewable energy resources in the U.S. are not located near population centers. President Liu agreed, and noted that was why China was working so hard on the development of the "Unified, Strong, Smart Grid" concept.

18. (SBU) Secretary of Commerce Gary Locke congratulated State Grid on its technical achievement to date, and for sharing the progress they had made. He noted that the U.S. was also embarking on the development of smart grids, and this was one of President Obama's priorities. In the U.S., efforts were being made to allow consumers to interact with their power provider, such as using the internet to program high energy consuming appliances to run when the rates are the lowest. Locke said he also saw great potential for UHV transmission technologies in the U.S., and looked forward to greater cooperation on the two countries' respective approaches to clean energy.

19. (SBU) President Liu noted that China had also begun efforts on the consuming side, pointing out initiatives with consumer electronics companies, such as Haier, and plans for hybrid vehicle charging stations in some cities. Liu thanked Chu and Locke for their visit, and suggested further cooperation, inviting the U.S. to participate in State Grid's clean energy conference in November.

110. (U) Secretary Chu and Secretary Locke's delegations did not have the opportunity to clear this message before departing.

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